**B&W Nuclear Environmental Services, Inc.**

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Mr. William Knoll
Department of the Navy
Code NAVSEA 08U
2531 Jefferson Davis Highway
Arlington, VA 22242-5160

July 17, 1996

Ref: Draft EIS for a Container System for the Management of Naval Spent Nuclear Fuel

Dear Mr. Knoll:

B&W Nuclear Environmental Services, Inc. (B&W NESI) is an affiliate of Babcock & Wilcox, the supplier of nuclear fuel and nuclear propulsion systems to the US Navy. B&W also fabricates the M-140 spent fuel shipping container, manages a facility for the US government in Idaho that supplies products utilizing depleted uranium, and operates its own hot cell facilities that examine spent fuel and other radioactive material. We have designed and fabricated several spent fuel shipping containers and most recently had a contract with the US DOE to design, license and fabricate two prototypes of a 100-ton container (the BR-100) to ship commercial spent fuel to the national repository or interim storage facility. The 100-ton container contract was prematurely stopped in 1994 due to project budget redirection, but accomplished many design objectives.

We have reviewed the reference EIS to determine if any of the lessons learned from our design or fabrication experience could help in its evaluation and to see if the proposed system could complement the overall environmental situation now existing at DOE sites with which we are familiar, particularly in Idaho. We also factored in the desire to (1) maximize safety for workers and the public, (2) minimize the opportunity for radioactive material release, and (3) minimize cost. Our comments are as follows:

A 1. Packaging the spent fuel into canisters at the INEL would prevent extraneous handling of exposed fuel and always provide a layer of containment during repository operations. The canisters should have handling interfaces identical to other canisters that the repository will manage. The canisters should be an acceptable waste form that could be placed directly into disposal overpacks.

B 2. Utilization of the canisters in transportable storage casks instead of vaults or systems that require their removal prior to shipment would minimize the direct handling of the canisters, thereby minimizing exposures and maximizing safety.

C 3. Priority should be given to utilization of surplus depleted uranium (DU) stock in storage in Idaho and at other government sites. DU is an excellent gamma shield and its use for spent fuel containers is a proven application previously licensed. This would provide a positive use for the DU instead of having to package it as a waste material and pay for its disposal in special facilities.

D 4. Priority should be given to utilization of recycled metal from DOE's contaminated metal stores. The canister shell and container walls could be made from metal with low levels of volumetric contamination. The additional dose rate of radiation from the use of such material would be insignificant and easily accounted for in safety analyses.

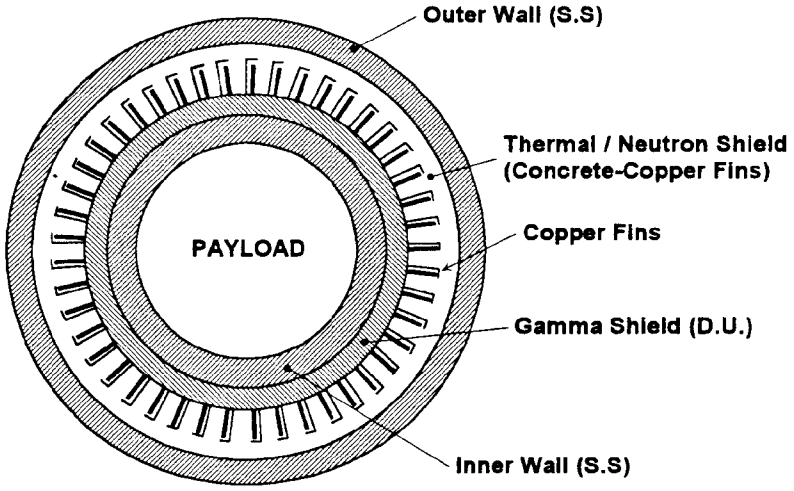
E 5. The use of a multi-layered construction for the containers, similar to the cross-section shown below, will provide the maximum safety and loading efficiency for a transportable storage container. The inner and outer walls are made of a recycled low-carbon 300-series stainless steel, the gamma shield from DU, and the neutron/thermal shield from a patented concrete-copper fin array utilized in the BR-100. Tests conducted for the DOE confirmed that such an arrangement would have the ability to withstand impacts and fires well beyond current regulatory limits. Section S.2.4 refers to the use of existing commercially available containers, but no such product exists for naval spent fuel, either individually in a basket or in a canister. The redesign of the transportable storage container should incorporate the use of DU, recycled metal and the concrete-copper fin array.

I hope these comments have been helpful. If you have any questions, please contact me at 804-948-4845 (fax 804-948-4635).

Sincerely Yours,

Paul C. Childress

Paul C. Childress
Vice President, Business Development




SF CONTAINER CROSS–SECTION

Commenter: Paul C. Childress - B&W Nuclear Environmental Services, Inc., Virginia

Response to Comments:

A. In Chapter 3, Section 3.8, Comparison of Alternatives, the EIS states that the impacts for most categories are small or nonexistent for all alternatives. Since 1957, the Navy has safely shipped over 660 containers of spent nuclear fuel from the shipyards and prototype sites to the Naval Reactors Facility. All of the shipments were made safely by rail and without release of radioactivity. Since any container alternative selected for dry storage and transportation (either by rail, heavy-haul truck, or a combination of both) must meet the requirements of 10 CFR Part 71, Packaging and Transportation of Radioactive Material, and 10 CFR Part 72, Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Waste, other containers can also be used safely and reliably.

B. The alternative suggested is essentially a variation of the Multi-Purpose Canister Alternative. The Navy does not expect to impose requirements or specifications which would prohibit using a single overpack design as part of a Multi-Purpose Canister System. If a container vendor designed a single overpack system which meets the requirements of both 10 CFR 71 and 10 CFR 72, handling of the canister could potentially be simplified.

C. Depleted uranium is recognized as an excellent gamma shield and as a licensed application for use in spent fuel containers. For example, the conceptual designs of the transportation overpacks for the Multi-Purpose Canister equipment are based on existing and demonstrated technology. They consist of concentric shells of stainless steel with layers of lead and depleted uranium in between for gamma radiation shielding (Appendix D, Section D.2.1). Since it is intended that the container system will be procured through the government competitive bidding process, it is not possible to identify at this time the actual materials which will be incorporated in the winning design.

D. The final type of material used in the container will be a detail of the design chosen by the vendor and the Navy to meet the regulatory licensing requirements and will take into consideration the following factors: public comments such as these; protection of human health and the environment; cost; technical feasibility; operational efficiency; regulatory impacts; and storage or disposal criteria which may be established for a repository or centralized interim storage site outside the State of Idaho (Chapter 3, Section 3.9).

E. The comment provides design and construction details for a transportable storage cask. For analytical purposes, the transportable storage cask designed by Nuclear Assurance Corporation International has been evaluated in this EIS as an existing representative design for the transportable storage cask type meeting the standards of the Nuclear Regulatory Commission. The design of the NAC-STC cask has been used in this EIS to represent this type of container; such use, however, does not mean that it is the design which would be chosen. Rather, the final choice will be made through a competitive bidding process. Similar, licensed transportable storage casks are likely to become available in the future and any one of the available designs might be selected (Chapter 3, Section 3.4). The identification of a preferred alternative and the selection of an alternative will take into consideration numerous factors, including public comments such as these: protection of human health and the environment; cost; technical feasibility; operational efficiency; regulatory impacts; and storage or disposal criteria which may be established for a repository or centralized interim storage site outside the State of Idaho (Chapter 3, Section 3.9).